5

BRUHAT BANGALORE MAHANAGARA PALIKE

Name of Work: Improvements to Roads and Drains at Kattigenahalli Main and Cross, Sirinagara, Niranthara layout, Sri Krishna Garden, Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05

COMBINED BOQ

Estimated Cost
Rs. 800.00 Lakh

Office of the
Executive Engineer
BYATARAYANAPURA DIVISION
Bruhat Bangalore Mahanagara Palike
Bangalore

Bruhat Bangalore Mahanagara Palike
Executive Engineer Byatarayanapura Division

Improvements to Roads and Drains at Kattigenahalli Main and Cross, Sirinagara, Niranthara layout, Sri Krishna Garden, Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05

1	Improvements to Roads and Drains at Main roads of Kattigenahalli and Surrounding areas in Ward No.05
2	Improvements to Roads and Drains at Cross roads of Kattigenahalli and Surrounding areas in Ward No.05
3	Improvements to Roads and Drains at Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05
4	Improvements to Roads and Drains at Sirinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward No.05

Quantity Abstract (Estimate Wise)

Sl No	Description of Item	Unit	Improvements to Roads and Drains at Main roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Cross roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Sirinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward No.05	Total Quantity as per Estimation	Rate, Rs	Amount, Rs
			1	2	3	4			
1	Removing & Refixing stone slabs of drains and pointing in C.M (1:3) with all lead and lift and as per the direction of Engineer in-Charge	Sqm	267.75	119.07	1070.55	455.49	**1912.86**	**111.30**	**212901.32**
2	KSRRB 300 - Excavation for road, drains and similar works KSRRB 300-1. Earthwork excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications with all lead and lift and as per the direction of Engineer in-Charge	Cum	170.00	93.96	358.90	435.42	**1058.28**	**207.60**	**219698.10**
3	Providing granite slabs of selected quality roughly dressed having a size of 7.5 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete with all lead and lift and as per the direction of Engineer in-Charge	Sqm	382.50	170.10	1189.50	650.70	**2392.80**	**742.00**	**1775457.60**
4	KSRRB M2100-10. Providing and laying Plain cement concrete of mix 1:3:6 with OPC @ 220kgs, with crushed 40mm and down size graded granite metal coarse aggregates @0.89cum and fine aggregates @ 0.46cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days including cost of all materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. (P.No-222,I No-27.18)	Cum		8.10	5.35	13.61	**27.05**	**5421.90**	**146684.08**

Sl No	Description of Item	Unit	Improvements to Roads and Drains at Main roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Cross roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Sirinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward No.05	Total Quantity as per Estimation	Rate, Rs	Amount, Rs
			1	2	3	4			
5	KSRB 5.2-3 : Providing and constructing granite / trap / basalt size stone masonry in foundation with cement mortar, stone hammered dressed in courses not less than 20 cms high, bond stones at 2m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13, cement mortar 1:6 KBS 5.1.13 (P.No-25,I No-5.6)	Cum		21.60	14.26	36.29	**72.14**	**4871.76**	**351468.25**
6	KSRB 4-1.6 ; Providing and laying in position plain cement concrete of Mix 1:2:4 with OPC @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregtes @ 0.53cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No-13,I No-4.6)	Cum		39.42	289.04	139.21	**467.68**	**5747.32**	**2687883.63**
7	KSRB 5-14 : Providing and constructing load bearing wall with solid concrete blocks of size 400x150x200 mm having block density not lessthan 1800 kg/m3 and having a minimum average compressive strength 4.00 N/mm2 confirming to IS 2185 (Part) : 2005 and constructed with CM 1:4 , as per IS 2572:2005 including cost of all materials, labour charegs, scaffolding, curing complete as per specifications. KBS No.5.4 I.No.5.26.2, Page no 27	Sqm		151.20	2400.00	984.80	**3536.00**	**979.44**	**3463299.84**
8	Providing and fixing RCC Precast cover slab of 100mm thick for drain in cement concrete M25 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)	Sqm		340.20	2854.80	1301.40	**4496.40**	**2337.00**	**10508086.80**
9	Providing and Fixing pre cast covering Slab 250mm thick made out of M25 and jelly 20mm Down size with steel reinforcement including form work,curing,including cost of alll materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge. (Data Rate)	Sqm		45.00	29.70	75.60	**150.30**	**5418.00**	**814325.40**

Sl No	Description of Item	Unit	Improvements to Roads and Drains at Main roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Cross roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Sirinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward No.05	Total Quantity as per Estimation	Rate, Rs	Amount, Rs
			1	2	3	4			
10	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location to a lead of 1km and complete as per specifications with all lead and lift and as per the direction of Engineer in-Charge	Cum	3234.00	2490.62	641.50	1975.38	**8341.50**	**56.26**	**469292.79**
11	Construction of granular sub-base Grading-V as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications with all lead and lift and as per the direction of Engineer in-Charge	Cum	1617.00	1471.98	457.02	1153.68	**4699.68**	**1994.92**	**9375485.63**
12	KSRRB M400-17. Providing, laying, spreading and compacting cushed stone aggregates of granite / trap / basalt to wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications with all lead and lift and as per the direction of Engineer in-Charge	Cum	2425.50	1942.47	685.53	1686.20	**6739.70**	**2001.28**	**13488016.81**
13	KSRRB M500-6. Providing and applying primer coat with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per specifications with all lead and lift and as per the direction of Engineer in-Charge	Sqm	12530.00	10993.20	3046.80	7494.20	**34064.20**	**28.62**	**974917.40**
14	KSRRB 500-2. Cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatment including cost of all materials, labour, HOM complete as per specifications. (P.No-158,I No-21.12,KPWD SR 2018-19)	Sqm		2950.00	3402.00	1542.90	**7894.90**	**5.30**	**41842.97**

Sl No	Description of Item	Unit	Improvements to Roads and Drains at Main roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Cross roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Sirinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward No.05	Total Quantity as per Estimation	Rate, Rs	Amount, Rs
			1	2	3	4			
15	KSRRB 500-7. Providing and applying tack coat using 80/100 grade bitumen(VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM complete as per specifications with all lead and lift and as per the direction of Engineer in-Charge	Sqm	12530.00	13943.20	6448.80	9037.10	**41959.10**	**12.72**	**533719.75**
16	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications Clause 505 of MORTH V revisionusing 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen with all lead and lift and as per the direction of Engineer in-Charge	Sqm	626.50	549.66	152.34	374.71	**1703.21**	**6597.44**	**11236825.78**
17	Providing and laying bituminous concrete 40mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision as per IRC SP-53-2015. using 40-60 TPH capacity HMP with mechanical paver grading II (30-45mm) with 5.4 % of modified bituminus binder consisting of 4.97% of VG-30 bitumen (60/70 grade) and 0.43% of plastomeric thermoplastics (waste plastic) with all lead and lift and as per the direction of Engineer in-Charge	Cum	501.20	557.73	257.95	361.48	**1678.36**	**7753.90**	**13013866.62**

Sl No	Description of Item	Unit	Improvements to Roads and Drains at Main roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Cross roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Sirinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward No.05	Total Quantity as per Estimation	Rate, Rs	Amount, Rs
			1	2	3	4			
18	KSRRB M800-13.Road Marking with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface/ Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 standards specified. The finished surface to be level, uniform and free from streaks and holes complete as per specifications with all lead and lift and as per the direction of Engineer in-Charge	Sqm	490.00	452.60	226.40	312.40	**1481.40**	**454.74**	**673651.84**
19	KSRRB M800-35. Supply and Installtion of Moulded Shank Raised Pavement Markers made of polycarbonate and ABS(Acrylonitrile Butadiene Styrene) moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 16000 kg tested in accordance to Specifications of Category A of MORTH Circular No RW/ NH/33023/10-97 – DO III Dt 11.06. 1997. The height, width and length shall not exceed 50 mm, 100 mm and 102 mm and with minimum reflective area of 13 Sqcm on each side and the slope to the base shall be 35 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 mm and height not less than 30 mm) from the body is to be a minimum value of 500 Kg. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer with all lead and lift and as per the direction of Engineer in-Charge	Nos	600.00	528.00			**1128.00**	**357.22**	**402944.16**

Sl No	Description of Item	Unit	Improvements to Roads and Drains at Main roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Cross roads of Kattigenahalli and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05	Improvements to Roads and Drains at Sirinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward No.05	Total Quantity as per Estimation	Rate, Rs	Amount, Rs
			1	2	3	4			
20	Supply and fixing of Retro Reflective Single Arrow Road Name Signboard of size 1600mm x 900mm made out of retro reflective sheeting conforming to Type XI standards of ASTM D 4956 - 09 & as per IRC 67-2012 for full back ground of blue colour & white letters and fixed over 4 mm thick Aluminium Composite Material sheet having minimum 0.5 mm thick Aluminium skin on both sides with back side painted grey colour and fixed over back support frame SS angle of 15mm x 20mmx 1.2mm, supported by 38mm OD stainless steel pipe all round in 304 grade and 2 nos of vertical posts of 50 mm OD stainless steel pipe of 202 grade firmly fixed to the ground by means of properly designed foundation of size 450mm x 450mm x 600mm in 1:1.5:3 ratio cement concrete. , complete. as per direction of engineer incharge of work clause 6.9 of IRC 67-2012 for Type XI retro reflective sheeting from the sheeting manufacturer & a certified copy of test reports from an independent test laboratory conforming to clause 6.7 of IRC 67-2012 including outdoor weather exposure report for the retro reflective sheeting offered shall be submitted by the contractor for technical qualification in the tender with all lead and lift and as per the direction of Engineer in-Charge	Sqm	2.88	7.20			10.08	14094.82	142075.79
								Construction Cost	70532444.55
								12% GST	8463893.35
								DPR and PMC Cost Including GST	1002000.00
								Sub Total	79998337.90
								Miscellaneous	1662.10
								Grand Total	80000000.00

ADMINISTRATIVE APPROVAL
Accorded For Rs. 800.00 Lakhs.
Head of A/c. P-3739
Div. Ref. No. 06/205)/2020-21 Date 10/09/2020
DC: 10/08/2020. ಮಂಜೂರಾತಿಯಲ್ಲಿ ಉಲ್ಲೇಖಿಸಲಾಗಿದೆ.
AE
EE(BTP) 10/09

Technical Sanction
Accorded For RS 800 Lakhs only
Head of A/C P 3739
CER NO : 208A Dt 22.05.2020
TA I CE (YNK)

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The rates adopted based on the PWD SR,Bangalore circle for year 2018-2019 and Data Rates.

Assistant Engineer
Ward 05
BBMP Bangalore

Asst. Executive Engineer
Dasarahalli Sub Division
BBMP Bangalore

Executive Engineer,
Byatarayanapura Division
BBMP Bangalore